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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

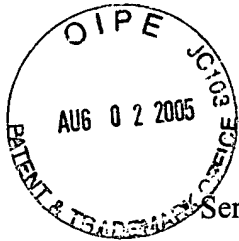
In re Application of:

Saulpaugh, et al.

Serial No. 09/653,215

Filed: August 31, 2000

For: METHOD AND APPARATUS
TO OBTAIN SERVICE
CAPABILITY CREDENTIALS



§ Group Art Unit: 2131
§
§ Examiner: Chen, Shin Hon
§
§ Atty. Dkt. No.: 5181-70400
§ P5200

CERTIFICATE OF MAILING
37 C.F.R. § 1.8

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APPEAL BRIEF

Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir/Madam:

Further to the Notice of Appeal mailed June 2, 2005, Appellants present this Appeal Brief. Appellants respectfully request that the Board of Patent Appeals and Interferences consider this appeal.

I. REAL PARTY IN INTEREST

As evidenced by the assignment recorded at Reel/Frame 011070/0129, the subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and now having its principal place of business at 4150 Network Circle, Santa Clara, CA 95054.

II. RELATED APPEALS AND INTERFERENCES

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-47 stand finally rejected. The rejection of claims 1-47 is being appealed. A copy of claims 1-47 as currently pending is included in the Claims Appendix herein below.

IV. STATUS OF AMENDMENTS

An after-final amendment, submitted via Facsimile on July 28, 2005, amends claims 33 – 47 to recite a tangible computer accessible medium rather than a carrier medium. The Examiner has not indicated whether this amendment will be entered. The Claims Appendix included herewith reflects the state of the claims prior to this amendment.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed toward a method for accessing a service in a distributed computing environment in which a client locates a service within the distributed computing environment and requests a capability credential to allow the client access to a portion of the service's capabilities. In distributed computing environments

according to some embodiments, service discovery protocols allow client to search for and locate services of various types. For example, clients may send search messages or queries using data representation languages, such as XML, which may include search criteria, such as desired service name and/or service type. Service providers may respond to search queries by providing service advertisements or by providing information to allow client to access stored advertisements, such as via a URI or other address. A service provider may compare the client's search criteria against service advertisements to find advertisements that match the search criteria. Additionally, clients may search advertisements in spaces or space services. The advertisements may use data representation languages and may include information, such as an address or interface, allowing client to obtain credentials necessary for access the service. A service advertisement may either be a complete advertisement including schema information regarding messages usable to access the service, or a protected (or secure) advertisement not including such schema information. *See, e.g.*, FIGs. 4, 6- 9, 12, 14-16, 18, 20, 22, 24, 26a-b, 28, 29 and 41-43; page 25, line 27 – page 26, line 13; page 27, lines 22 – 30; page 28, line 13 – page 29, line 16; page 29, line 26 – page 30, line 23; page 54, line 3 – 55, line 20; page 64, line 18 – page 65, line 20; page 90, line 27 – page 91, line 12; page 92, lines 16 – 29; page 106, lines 12-30; page 107, lines 3 – 28; page 108, lines 11-26; page 111, line 16 – page 112, line 6; page 114, lines 13-23.

A client may select a service and request a capability credential by sending (e.g., to a URI specified in a corresponding service advertisement) a capability credential request message. The advertisement may include the address of an appropriate authentication service providing capability credentials. In some embodiments, the advertisement may include a schema or other information regarding messages to access the service. For instance, a service's message set may be defined using a data representation language schema, such as an XML schema, that defines each message format using typed tags. As part of requesting a capability credential, the client may indicate a set of desired capabilities. For example, a client may present the service a set of desired capabilities in the form of a secure advertisement. *See, e.g.*, FIGs. 4, 6- 9, 12, 14-16, 18, 20, 22, 24, 26a-b, 28, 29 and 41-43; page 29, line 26 – page 30, line 23; page

55, lines 8-20; page 93, lines 1 – 24; page 102, lines 6 – 25; page 103, line 24 – page 104, line 17; page 107, lines 12-30.

Additionally, the client receives a capability credential indicating that the client has the right to use the portion of the service's capabilities. As noted above, a client requests a capability credential using a capability credential request message. A credential request message may be sent to an authentication service using a URI specified in a service's advertisement. The capability credential may be generated according to capabilities requested by the client and/or the client's level of authorization. Additionally, if the client received a protected service advertisement in response to its original search query, the client may also use the capability credential to obtain a complete advertisement. *See, e.g.*, FIGs. 20, 22, 26a-b and 41-43; page 13, lines 21 – 30; page 14, line 29 – page 15, line 13; page 38, lines 17-29; page 59, lines 16-25; page 60, lines 7-14; page 66, lines 16 – 26; page 75, lines 23 – 26; page 91, lines 1-12; page 104, line 21 – page 106, line 7.

The client uses the capability credential to access portions of the service's capabilities. For instance, the client may use both the capability credential and the service advertisement to create a message gate for sending messages according to a schema in the service advertisement to access and use the service. In some embodiments, the gate may include the capability credential in each message to that the service can authenticate each message from the client. *See, e.g.*, FIGs. 20, 22, 26a-b and 41-43; page 30, line 27 – page 31, line 38, line 5; page 36, lines 5-12; page 45, lines 1 – 14; page 54, lines 13 – 21; page 75, lines 9-17; page 91, line 14 – page 92, line 7; page 98, line 23 – page 99, line 14.

Independent claim 17 is directed toward a client device that includes a connection to a distributed computing environment and an interface coupled to the connection that is configured to locate a service within the distributed computing environment. The interface of the client device of claim 17 is configured to request a capability credential over the connection for a set of desired capabilities to allow a client on the client device

access to a portion of the service's capabilities. The client device interface is also configured to receive the capability credential over the connection. As with the capability credential described above regarding claim 1, the capability credential of claim 17 indicates that the client has the right to use the portion of the service's capabilities. The interface is further configured to use the capability credential to access the portion of the service's capabilities. For more details regarding locating services, obtaining and using both service advertisement and capability credentials, please see the above discussion of independent claim 1.

Independent claim 33 is directed toward a medium including program instructions that are computer-executable on a client device to implement the method described above regarding claim 1. Please refer to the discussion of independent claim 1 above for more details.

VI. GROUND S OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-7, 9-13, 16-23, 25-29, 31-39, 41-45 and 47 stand finally rejected under 35 U.S.C. § 102(a) as being anticipated by Czerwinski, et al., "An Architecture for a Secure Service Discovery Service" (hereinafter "Czerwinski").

2. Claims 8, 24 and 40 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Czerwinski in view of Vacon et al. (U.S. Patent 5,227,778, hereinafter "Vacon").

3. Claims 14, 15, 30 and 46 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Czerwinski in view of Johnson et al. (U.S. Patent 5,560,008, hereinafter "Johnson").

VII. ARGUMENT

First Ground of Rejection

Claims 1-7, 9-13, 16-23, 25-29, 31-39, 41-45 and 47 stand finally rejected under 35 U.S.C. § 102(a) as being anticipated by Czerwinski. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claims 1, 10-13, 17, 26-29, 33 and 42-45:

Regarding claim 1, Czerwinski fails to teach requesting a capability credential to allow the client to access a portion of the first service's capabilities, wherein said requesting a capability credential comprises the client indicating a set of desired capabilities. The Examiner cites passages in Czerwinski (Sections 3.3 and 3.4) that discuss the certificate authority and the capability manager of a Service Discovery Service (SDS). Czerwinski describes a secure Service Discovery Service (SDS) wherein a client requests a capability credential from a capability manager. However, an SDS client does not indicate a set of desired capabilities when requesting a capability credential. Instead, each service in the SDS system contacts the capability manager, and "specifies an access control list" including a list of principals, such as clients, allowed to access the service's description (Czerwinski, section 3.4, paragraph 3). It is only after obtaining a capability credential from the CM that a client contacts an SDS Server to locate one or more services. The SDS server returns services that match the client's query (Czerwinski, section 3.1, paragraph 5). The client presents the capability credential to the SDS server and the server only returns services to which the client has access based upon the capability credential obtained from the Capability Manager. Thus, a client is granted access to all or none of a service's features based on whether that client is included in the service's access control list. In other words, SDS services specify which clients can have access to their respective services, but an SDS client does not indicate a set of desired capabilities when requesting a capability credential. The capability manager gives the client a capability credential that informs the SDS server of which services the client is able to access.

In response to the above argument, the Examiner states, "Czerwinski discloses a

client contacts the CA and specifies the principal's certificate that it is interested in," again citing section 3.3 of Czerwinski. **However, a principal's certificate in Czerwinski does not indicate a set of desired capabilities.** Instead, a principal's certificate is a "public-key certificate that can be used to prove the component's identity to all other components" (Czerwinski, section 2.4, paragraph 2). Thus, the certificates to which the Examiner is referring provide authentication within Czerwinski's system and do not have anything to do with a client indicating a set of desired capabilities. Czerwinski teaches that his system uses certificates "to authenticate the bindings between principals and their public keys (i.e., verifying the digital signatures used to establish the identities of SDS components)" (Czerwinski, section 3.3, paragraph 1).

Czerwinski's client requesting a principal's certificate is clearly different from requesting a capability credential where the client indicates a set of desired capabilities, as recited in claim 1. As noted above, Czerwinski's certificates provide authentication, not any indication of a desired set of capabilities. **Furthermore, the Examiner's cited passage states that Czerwinski's Certificate Authority provides a principal's certificate to a client, and thus, even if Czerwinski's certificates did indicate a set of desired capabilities, which they clearly don't, the Examiner's argument still would not provide for a client indicating a set of desired capabilities.**

Claims 2, 18 and 34:

Regarding claim 2, the Examiner asserts that Czerwinski teaches that requesting a capability credential comprises the client sending a capability credential request message, wherein said capability credential request message comprises an identification of said first service and an indication of the set of desired capabilities. The Examiner's interpretation of Czerwinski is incorrect. In fact, Czerwinski fails to disclose a capability credential request message that comprises an identification of the first service. The Examiner's cited passages (sections 3.3 and 3.4) disclose how a client contacts a capability manager to obtain the client's capabilities, but neither of these passages describes a capability credential request message that comprises an indication of a

service. In contrast, Czerwinski states that SDS services provide an access control list including a list of principals, such as clients, allowed to access the service's description (Czerwinski, section 3.4, paragraph 3). Czerwinski further states that the capability manager "then generates the appropriate capabilities and saves them for later distribution to the clients" (Czerwinski, section 3.4, paragraph 3). Thus, rather than a client sending a capability credential request message that comprises an identification of the service, Czerwinski teaches that the identity of the client is matched against access control lists to determine which services the client is allowed to discover.

Additionally, Czerwinski fails to teach that the capability credential request message comprises an indication of the set of desired capabilities. As argued above regarding claim 1, Czerwinski's SDS clients do not indicate a desired set of capabilities when requesting a capability credential. Instead, they obtain a capability credential that allows the SDS server to return only those services that have specifically granted the client access (Czerwinski, section 3.1, paragraph 5). Therefore, any capability credential request message in SDS would not, and could not, comprise an indication of a client's set of desired capabilities.

In response to the above arguments, the Examiner states, "Czerwinski discloses the first service, which is the SDS service, and the set of desired capabilities" citing section 3.1, paragraph 5, and section 6.1 of Czerwinski. However, section 3.1, paragraph 5 describes how a client submits a query to the SDS service along with the client capabilities to search for "service descriptions that both match the query and are accessible to the user." Czerwinski's SDS service does not provide capability credentials to clients. Instead, as noted above, Czerwinski's system includes a capability manager that distributes capabilities. A client submitting a query to an SDS service does not involve a capability credential request message. Section 6.1 of Czerwinski briefly describes the unique service names of both the Internet Domain Naming Service and Globe. However, this cited passage makes no mention of capability credentials, capability credential request messages, nor any indication of a set of desired capabilities. In fact, section 6.1 of Czerwinski is completely irrelevant to a capability credential

request message comprising an identification of said first service and an indication of the set of desired capabilities, as recited in claim 2.

Claims 3, 19 and 35:

In regard to claim 3, contrary to the Examiner's contention, Czerwinski fails to teach that the identification of said first service comprises a Universal Unique Identifier (UUID). The Examiner cites section 6.1 of Czerwinski, but this passage only states that a different discovery service, Globe, uses unique object identifiers to identify services. Section 6.1 clearly fails to disclose a capability credential request message comprising an identification of a service wherein that identification of the service comprises a UUID. In contrast, as shown above regarding claim 2, Czerwinski teaches that clients do not identify a service when requesting a capability credential. Hence, any use of UUIDs (note that Czerwinski does not even mention UUIDs) or "Globe unique object identifiers", in SDS would not involve including a UUID as part of an identification of a service in a capability credential request message. Also, the Globe unique object identifiers in Czerwinski are not described as UUIDs. Czerwinski clearly fails to teach that the identification of the first service comprises a Universal Unique Identifier (UUID).

In response to the above argument, the Examiner states, "Czerwinski discloses that the SDS is connected to the client through ARMI, which commonly uses UUID to identify the service" citing section 3.1, paragraph 5 and section 3.5.3 of Czerwinski. However, as noted above, a client in Czerwinski's system does not send a capability credential request message to an SDS service. Neither of the cited passages mention anything about, nor have anything to do with, capability credential request messages. Whether or not ARMI uses UUIDs (the Examiner has provided no evidence in this regard) to identify services for other purposes does not disclose anything about the contents of a capability credential request message. The Examiner seems to be completely ignoring this limitation of Appellant's claims.

Furthermore, the Examiner has not established a proper case of anticipation because the teachings relied on by the Examiner are from separate works. Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Although all the teachings cited by the Examiner are discussed in a single reference, the teachings are not part of a single method. For example, the portion of Czerwinski cited by the Examiner at section 6.1 is part of Czerwinski's discussion of related work and pertains to a different service discovery system (Globe) than the portion of Czerwinski cited by the Examiner at sections 3.3 and 3.4. To anticipate the claimed invention, Czerwinski must teach a single method that is identical to Appellants' claimed invention. Otherwise, Czerwinski cannot be said to teach the identical invention arranged as in Appellants' claims. Moreover, as discussed above, no combination of teachings in Czerwinski teaches Appellants' claimed invention.

Claims 4, 20 and 36:

Regarding claim 4, contrary to the Examiner's assertion, Czerwinski fails to disclose that said capability credential request message is formatted in eXtensible Markup Language (XML). The Examiner cites section 3.1 of Czerwinski. However, this passage only describes how a client uses XML to build a service query that is matched against various service descriptions by the SDS server. As noted above, an SDS client must already have a capability credential obtained from Czerwinski's capability manager prior to querying an SDS server. Furthermore, Czerwinski only states that "[s]ervice descriptions and queries are specified in eXtensible Markup Language (XML)" (Czerwinski, section 1, paragraph 5). Neither service descriptions nor service queries in SDS are capability credential request messages. Czerwinski fails to mention anything about using XML to format a capability credential request message. In fact, Czerwinski fails to describe the formatting of a capability credential request message at all. Thus,

Czerwinski clearly fails to disclose wherein said capability credential request message is formatted in eXtensible Markup Language (XML).

In the Response to Arguments section of the Final Office Action, the Examiner response to the above argument by stating, “since the SDS query is in XML format and the query contains capabilities ... [t]herefore, the capabilities credential request message and the credential are communicated in XML format in order to make it easier to communicate.” This argument by the Examiner is clearly flawed. Firstly, the very fact that an SDS query includes capabilities, as admitted by the Examiner, demonstrates that the SDS query cannot be a capability credential *request* message. Secondly, just because an SDS query is formatted in XML **does not imply** that anything else, including a capability credential request message, is formatted in XML. As noted above, Czerwinski fails to teach anything regarding the format of a capability credential request message. Thirdly, the Examiner is incorrect that a capability credential in SDS is communicated in XML format. Czerwinski teaches that “capabilities, like certificates, are securely associated with a single principal, and only the clients possessing the appropriate private key can use them” (Czerwinski, section 3.4, paragraph 3). Czerwinski’s capabilities are clearly encrypted and not formatted in XML. The Examiner’s argument amounts to nothing more than merely speculation and unsubstantiated conclusion unsupported by any teaching or suggestion from Czerwinski.

In the Advisory Action, the Examiner further responds to the above argument by stating, “since XML is a well known data representation language, it would be [a] design choice to apply similar data representation languages.” Appellants do not see the relevance of the Examiner’s statement. Appellants’ claims do not recite anything about applying similar data representation languages. Additionally, the Examiner’s opinions regarding whether or not XML is a well-known data representation language and regarding possible or potential design choices have no bearing on a § 102(a) rejection based on anticipation. Without some clear disclosure by Czerwinski regarding a capability credential request message formatted in XML, Czerwinski cannot be said to anticipate Appellants’ claim 4.

Claims 5, 9, 21, 25, 37 and 41:

Regarding claim 5, contrary to the Examiner's assertion, Czerwinski fails to teach that said indication of the set of desired capabilities comprises an indication of said advertisement. Specifically, as noted above, capability credential request messages in SDS do not include an indication of desired capabilities. Furthermore, Czerwinski fails to disclose that the indication of the set of desired capabilities comprised in a capability credential request message comprises an indication of an advertisement for the first service. The Examiner's cited passages (Czerwinski, sections 3.1, 3.3, and 34) describe SDS servers, certificate authority and capability managers. However, when requesting capability credentials, SDS clients do not include any indication of a desired set of service capabilities, as noted above. Furthermore, SDS clients do not include an indication of an advertisement for a service as part of an indication of a set of desired capabilities, when querying an SDS service. Instead, clients include desired capabilities in queries to locate service advertisements (e.g. service descriptions) (Czerwinski, section 3.1, paragraph 5).

In response to appellants argument above, the Examiner states, without citing any particular portion of Czerwinski, "Czerwinski discloses the advertisement domain contains the service announcements and contact information for the capability manager and certificate authority that are indication[s] of the desired capabilities". The Examiner is presumably referring to Czerwinski's teachings regarding *domain advertisements*, as described in section 3.1, paragraph 1. However, Czerwinski specifically states that each server sends domain advertisements that are authenticated messages "containing a list of domains that [the server] is responsible for" (Czerwinski, section 3.1, paragraph 1). Plus, contact information for a service is not an indication of desired capabilities. Instead, contact information merely provides a means of addressing (e.g. sending messages to) an entity in Czerwinski's system. Thus, the domain advertisements do not include any indications of desired capabilities. Moreover, the Examiner appears to be arguing that Czerwinski's domain advertisements include indications of desired capabilities, which,

even if true, which it is not, would be completely the opposite of what is recited in Appellants' claim. Claim 5 recites, in part, wherein the indication of the set of desired capabilities comprises an indication of the advertisement. Thus, the Examiner's contention that a domain advertisement includes indications of desired capabilities does not address appellants' argument that Czerwinski fails to teach that an indication of the set of desired capabilities includes an indication of the advertisement.

Claims 6, 22 and 38:

Regarding claim 6, contrary to the Examiner's assertion, Czerwinski fails to teach wherein said indication of said advertisement is said advertisement itself. The remarks above regarding claim 5 apply to claim 6 as well. Additionally, Czerwinski fails to teach including an advertisement for a service in a capability credential request message, as described previously. The Examiner cites passages (Czerwinski, sections 3.1, 3.3, and 3.4) that describe SDS servers, capability managers, and certificate authority. However, nowhere in the Examiner's cited passages, nor anywhere else, does Czerwinski describe including an advertisement for a service in a capability credential request message. In contrast, Czerwinski teaches that a capability manager receives access control lists from services that include lists of principals that are allowed to access a service (Czerwinski, section 3.4). An SDS client does not include any indication of an advertisement for a service in a capability credential request message and certainly does not include the advertisement itself as the indication of the advertisement in a capability credential request message. Instead, an SDS client receives from the capability manager a credential that is presented to a SDS server by the client. The SDS server then uses that credential to return only services that the client is allowed to access. (See Czerwinski, section 3.1, paragraph 5). Thus, Czerwinski clearly fails to teach that said indication of said advertisement is said advertisement itself. **Appellants note that the Examiner has never provided any rebuttal to this argument.**

Claims 7, 23 and 39:

Regarding claim 7, the Examiner contends that Czerwinski discloses a method

including wherein said indication of said advertisement is a Uniform Resource Identifier (URI) to said advertisement. The Examiner's interpretation of Czerwinski is incorrect. The Examiner cites sections 3.1 and 3.4 of Czerwinski that describes the workings of SDS servers and SDS capability managers. Specifically the Examiner is relying upon the fact that in SDS "a capability proves the client is on ACL [access control list] by embedding the client's principal name and the service name" combined with Czerwinski's disclosure regarding the Globe services us globe unique object identifier. However, the teachings in Czerwinski that the Examiner is relying upon have nothing to do with a capability credential request message. In fact, the cited passage of Czerwinski does not mention anything regarding a capability credential request message nor does it describe using a URI to an advertisement as an indication of the advertisement in a capability credential request message. In contrast, Czerwinski teaches that a capability manager receives access control lists from services that include lists of principals that are allowed to access a service (Czerwinski, section 3.4). The service advertisements in SDS are sent by individual services and are collected by SDS servers to compare against client queries (Czerwinski, section 2.3). Nowhere does Czerwinski teach that a client includes a URI to an advertisement as an indication of the advertisement in a capability credential request message.

Furthermore, the Examiner has not established a proper case of anticipation because the teachings relied on by the Examiner are from separate works. Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Although all the teachings cited by the Examiner are discussed in a single reference, the teachings are not part of a single method. For example, the portion of Czerwinski cited by the Examiner at section 6.1 pertains to a different service discovery system (DNS) than the portion of Czerwinski cited by the Examiner at sections 3.3 and 3.4. To anticipate the claimed invention, Czerwinski must teach a single method that is identical

to Appellants' claimed invention. Otherwise, Czerwinski cannot be said to teach the identical invention arranged as in Appellants' claims. Moreover, as discussed above, no combination of teachings in Czerwinski teaches Appellants' claimed invention.

Appellants note that the Examiner has never provided any rebuttal to the above arguments in regard to claim 7.

Second Ground of Rejection

Claims 8, 24 and 40 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Czerwinski in view of Vacon. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Regarding claim 8, contrary to the Examiner's assertion, Czerwinski in view of Vacon fails to teach wherein the indication of the advertisement in the capability credential request message is a version of the advertisement edited to describe only the set of desired capabilities. As described herein above, Czerwinski does not teach the use of a capability credential request message that includes an indication of an advertisement. The Examiner cites a passage in Vacon that describes how network servers use multi-cast request messages to locate services that match a client's request. The Examiner is relying upon Vacon's teaching that a server includes identification, by function, of the requested service in the multi-cast request message (Vacon column 2, lines 1-5). However, when a server is sending a multi-cast request message including a desired service, it is not sending a *capability credential request message*. Instead, it is a multi-cast request message to which all services providing the desired service reply (Vacon, column 5, lines 23-51).

Further, a server in Vacon's system does not include a version of an advertisement edited to describe only a set of desired capabilities in the multi-cast request message. Instead, Vacon clearly teaches that a server saves only the network address of

the service and discards the remainder of the service advertisement (Vacon, column 2, lines 34-46). Thus, under Vacon, the service advertisement is not even saved, much less edited to describe only a set of desired capabilities and included in a capability credential request message.

Additionally, the Examiner's proposed combination of Czerwinski in view of Vacon would not result in a system that includes wherein the indication of the advertisement in the capability credential request message is a version of the advertisement edited to describe only the set of desired capabilities. In fact, such a combination would result in a system where the SDS servers taught by Czerwinski send multi-cast request messages, including an indication of the desired service, to find services that match a client's needs. However, since, as noted above, neither Czerwinski nor Vacon, discloses a *capability credential request message* including an indication of an advertisement for a service, a combination of Czerwinski and Vacon would also not include a capability credential request message including an indication of an advertisement, wherein the indication of the advertisement is a version of the advertisement edited to described only the set of desired capabilities. **Appellants note that the Examiner has failed to provide any rebuttal to Appellants' arguments regarding claim 8.**

Third Ground of Rejection

Claims 14, 15, 30 and 46 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Czerwinski in view of Johnson. Appellants traverse this rejection for at least the reasons given above regarding their respective independent claims.

VIII. CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-47 was erroneous, and reversal thereof is respectfully requested.

The Commissioner is authorized to charge the appeal brief fee of \$500.00 and any other fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-70400/RCK. This Appeal Brief is submitted with a return receipt postcard.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. Kowert', with a long horizontal flourish extending to the right.

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Date: July 29, 2005

IX. CLAIMS APPENDIX

The claims on appeal are as follows.

1. A method for accessing a service in a distributed computing environment, comprising:

a client locating a first service within the distributed computing environment;

the client requesting a capability credential to allow the client access to a portion of the first service's capabilities, wherein said requesting a capability credential comprises the client indicating a set of desired capabilities;

the client receiving said capability credential, wherein said capability credential indicates that the client has the right to use said portion of the first service's capabilities; and

the client using said capability credential to access one or more of said portion of the first service's capabilities.

2. The method as recited in claim 1, wherein said requesting a capability credential comprises the client sending a capability credential request message, wherein said capability credential request message comprises an identification of said first service and an indication of the set of desired capabilities.

3. The method as recited in claim 2, wherein said identification of said first service comprises a Universal Unique Identifier (UUID).

4. The method as recited in claim 2, wherein said capability credential request message is formatted in eXtensible Markup Language (XML).

5. The method as recited in claim 2, further comprising:

the client receiving an advertisement for the first service, wherein said advertisement describes the portion of the first service's capabilities; and

wherein said indication of the set of desired capabilities comprises an indication of said advertisement.

6. The method as recited in claim 5, wherein said indication of said advertisement is said advertisement itself.

7. The method as recited in claim 5, wherein said indication of said advertisement is a Uniform Resource Identifier (URI) to said advertisement.

8. The method as recited in claim 5, wherein said advertisement describes all of the first service's capabilities, and wherein said indication of said advertisement in said capability credential request message is a version of said advertisement edited to describe only said set of desired capabilities.

9. The method as recited in claim 5, wherein said advertisement is a protected advertisement that describes the first service's capabilities but does not provide an interface to the first service's capabilities.

10. The method as recited in claim 1, further comprising:

the client receiving a protected advertisement for the first service, wherein said protected advertisement indicates an address for sending said capability credential request message to; and

wherein said requesting a capability credential comprises the client sending a capability credential request message to said address indicated in said protected advertisement.

11. The method as recited in claim 10, wherein said address indicated in said protected advertisement is for an authentication service, wherein said sending a capability credential request message comprises sending said capability credential request message to said authentication service, the method further comprising the authentication service sending a credential request response message to the client in response to said capability credential request message.

12. The method as recited in claim 11, wherein said credential request response message includes said capability credential, wherein said receiving said capability credential comprises receiving said capability credential from said authentication service in said credential request response message.

13. The method as recited in claim 1, further comprising:

the client receiving a protected advertisement for the first service, wherein said protected advertisement indicates an authentication service; and

wherein said requesting a capability credential comprises the client requesting a capability credential from said authentication service.

14. The method as recited in claim 13, the method further comprising:

said authentication service determining a level of the first service's capabilities that the client is authorized to use;

said authentication service generating said capability credential according to said level and said set of desired capabilities; and

said authentication service sending said capability credential to the client, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is no more than said set of desired capabilities.

15. The method as recited in claim 14, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is the lesser of said level of the first service's capabilities that the client is authorized to use and said set of desired capabilities.

16. The method as recited in claim 1, wherein said using said capability credential to access one or more of said portion of the first services capabilities comprises the client sending a message to the first service to access a first capability, wherein the message includes said capability credential, the method further comprising the first service authenticating said capability credential received in the message to verify that the client has the right to use said first capability.

17. A client device, comprising:

a connection to a distributed computing environment;

an interface coupled to said connection and configured to locate a first service within the distributed computing environment;

wherein the interface is further configured to request over the connection a capability credential for a set of desired capabilities to allow the client on the client device access to a portion of the first service's capabilities;

wherein the interface is further configured to receive over the connection said capability credential, wherein said capability credential indicates that the

client has the right to use said portion of the first service's capabilities;
and

wherein the interface is further configured to use said capability credential to
access one or more of said portion of the first service's capabilities.

18. The client device as recited in claim 17, wherein the interface is configured to request a capability credential by sending a capability credential request message, wherein said capability credential request message comprises an identification of said first service and an indication of the set of desired capabilities.

19. The client device as recited in claim 18, wherein said identification of said first service comprises a Universal Unique Identifier (UUID).

20. The client device as recited in claim 18, wherein said capability credential request message is formatted in eXtensible Markup Language (XML).

21. The client device as recited in claim 18, wherein the interface is further configured to receive an advertisement for the first service, wherein said advertisement describes the portion of the first service's capabilities, and wherein said indication of the set of desired capabilities comprises an indication of said advertisement.

22. The client device as recited in claim 21, wherein said indication of said advertisement is said advertisement itself.

23. The client device as recited in claim 22, wherein said indication of said advertisement is a Uniform Resource Identifier (URI) to said advertisement.

24. The client device as recited in claim 21, wherein said advertisement describes all of the first service's capabilities, and wherein said indication of said

advertisement in said capability credential request message is a version of said advertisement edited to describe only said set of desired capabilities.

25. The client device as recited in claim 21, wherein said advertisement is a protected advertisement that describes the first service's capabilities but does not provide an interface to the first service's capabilities.

26. The client device as recited in claim 17, wherein the interface is further configured to receive a protected advertisement for the first service, wherein said protected advertisement indicates an address for sending said capability credential request message to, and wherein the interface is configured to request a capability credential by sending a capability credential request message to said address indicated in said protected advertisement.

27. The client device as recited in claim 26, wherein said address indicated in said protected advertisement is for an authentication service, wherein said sending a capability credential request message comprises sending said capability credential request message to said authentication service.

28. The client device as recited in claim 27, wherein the interface is configured to receive said capability credential from said authentication service in a credential request response message.

29. The client device as recited in claim 17, wherein the interface is further configured to:

receive a protected advertisement for the first service, wherein said protected advertisement indicates an authentication service; and

request a capability credential by requesting a capability credential from said authentication service.

30. The client device as recited in claim 29, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is the lesser of said level of the first service's capabilities that the client is authorized to use and said set of desired capabilities.

31. The client device as recited in claim 17, wherein the interface is configured to use said capability credential to access one or more of said portion of the first services capabilities for said client by sending a message to the first service to access a first capability, wherein the message includes said capability credential so that the first service may authenticate said capability credential received in the message to verify that the client has the right to use said first capability.

32. The client device as recited in claim 17, wherein said interface comprises one or more processes executable on a processor within the client device.

33. A carrier medium comprising program instructions, wherein the program instructions are computer-executable on a client device to implement:

locating a first service within the distributed computing environment;

requesting a capability credential to allow a client on the client device access to a portion of the first service's capabilities, wherein said requesting a capability credential comprises the client indicating a set of desired capabilities;

receiving said capability credential, wherein said capability credential indicates that the client has the right to use said portion of the first service's capabilities; and

using said capability credential to access one or more of said portion of the first service's capabilities.

34. The carrier medium as recited in claim 33, wherein said requesting a capability credential comprises the client sending a capability credential request message, wherein said capability credential request message comprises an identification of said first service and an indication of the set of desired capabilities.

35. The carrier medium as recited in claim 34, wherein said identification of said first service comprises a Universal Unique Identifier (UUID).

36. The carrier medium as recited in claim 34, wherein said capability credential request message is formatted in eXtensible Markup Language (XML).

37. The carrier medium as recited in claim 34, wherein the program instructions are computer-executable on the client device to further implement:

receiving an advertisement for the first service, wherein said advertisement describes the portion of the first service's capabilities; and

wherein said indication of the set of desired capabilities comprises an indication of said advertisement.

38. The carrier medium as recited in claim 37, wherein said indication of said advertisement is said advertisement itself.

39. The carrier medium as recited in claim 37, wherein said indication of said advertisement is a Uniform Resource Identifier (URI) to said advertisement.

40. The carrier medium as recited in claim 37, wherein said advertisement describes all of the first service's capabilities, and wherein said indication of said

advertisement in said capability credential request message is a version of said advertisement edited to describe only said set of desired capabilities.

41. The carrier medium as recited in claim 37, wherein said advertisement is a protected advertisement that describes the first service's capabilities but does not provide an interface to the first service's capabilities.

42. The carrier medium as recited in claim 33, wherein the program instructions are computer-executable on the client device to further implement:

receiving a protected advertisement for the first service, wherein said protected advertisement indicates an address for sending said capability credential request message to; and

wherein said requesting a capability credential comprises the client sending a capability credential request message to said address indicated in said protected advertisement.

43. The carrier medium as recited in claim 42, wherein said address indicated in said protected advertisement is for an authentication service, wherein said sending a capability credential request message comprises sending said capability credential request message to said authentication service.

44. The carrier medium as recited in claim 43, wherein said receiving said capability credential comprises receiving said capability credential from said authentication service in a credential request response message.

45. The carrier medium as recited in claim 33, wherein the program instructions are computer-executable on the client device to further implement:

receiving a protected advertisement for the first service, wherein said protected advertisement indicates an authentication service; and

wherein said requesting a capability credential comprises the client requesting a capability credential from said authentication service.

46. The carrier medium as recited in claim 45, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is the lesser of said level of the first service's capabilities that the client is authorized to use and said set of desired capabilities.

47. The carrier medium as recited in claim 33, wherein said using said capability credential to access one or more of said portion of the first services capabilities comprises the client sending a message to the first service to access a first capability, wherein the message includes said capability credential so that the first service may authenticate said capability credential received in the message to verify that the client has the right to use said first capability.

X. EVIDENCE APPENDIX

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

XI. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.